# TECHNICAL REVIEW DOCUMENT for OPERATING PERMIT 960PJE139

to be issued to:

Rocky Mountain Metal Container Jefferson County Source ID 0590006

> Cathy Rhodes April, 2001

#### I. PURPOSE:

This document will establish the basis for decisions made regarding the applicable requirements, emissions factors, monitoring plan and compliance status of emission units covered by the operating permit proposed for this site. It is designed for reference during the review of the proposed permit by the EPA, the public, and other interested parties. The conclusions made in this report are based on information provided in the original application submittal of February 15, 1996, and subsequent supplemental technical submittals.

Any revisions made to the underlying construction permits associated with this facility in conjunction with the processing of this operating permit application have been reviewed in accordance with the requirements of Regulation No. 3, Part B, Construction Permits, and have been found to meet all applicable substantive and procedural requirements. This operating permit incorporates and shall be considered to be a combined construction/operating permit for any such revision, and the permittee shall be allowed to operate under the revised conditions upon issuance of this operating permit without applying for a revision to this permit or for an additional or revised Construction Permit.

#### II. SOURCE DESCRIPTION:

This facility produces aluminum cans for the Coors Brewery and other entities under SIC Code 3411, and is considered by the Division to be a support facility for the Coors Brewery, under SIC Code 2082.

This facility is located in Golden, Jefferson County. The area is classified as attainment/maintenance for ozone, carbon monoxide, and particulate matter less than 10 microns in size  $(PM_{10})$  Under that classification, all SIP-approved requirements will continue to apply in order to prevent backsliding under the provisions of Section 110(1) of the Federal Clean Air Act.

This facility, along with the Coors Brewery, Valley Support, and McIntyre facilities (permitted under 96OPJE140) and TriGen Colorado Energy Corporation (permitted under 96OPJE143) are considered to be a single major source for PSD purposes.

There are no affected states within 50 miles of the facility. There are two Federal Class I areas within 100 kilometers of the facility: Rocky Mountain National Park and Eagle S Nest National Wilderness Area.

Facility wide emissions (except not including the Golden Business Unit or TriGen emissions) are as follows (tons/year):

<u>Pollutant</u>	<u>Potential</u>	<u>Actual</u>
Particulate Matter (PM)	71	17
$PM_{10}$	71	17
Nitrogen Oxides (NO <sub>x</sub> )	29	6
Volatile Organic Compounds (VOC)	553	157
CO	6	1
H <sub>2</sub> S	2.6	2.6
HAPs	512	N/A

Potential emissions are as presented in the Operating Permit application. Actual emissions are based on 1997 AIRS data. HAPs consist mostly of Methyl Ethyl Ketone, Glycol Ethers (including 2-butoxyethanol), Methanol, Sulfuric Acid, and Ammonia. Note: Construction Permit 01JE0643 was issued for a PSD major modification to the facility, to increase production. The permittee must apply for a modification to the operating permit to include the PSD modification in the operating permit within one year of commencing operation of the major modification.

Total emissions for the Coors Brewery complex, Rocky Mountain Metal Container, and TriGen Colorado Energy Corporation are as follows:

Pollutant Potential Ac	
Particulate Matter (PM) 3573 74	
PM <sub>10</sub> 1256 56	i
Nitrogen Oxides (NO <sub>x</sub> ) 3722 16	12
Volatile Organic Compounds (VOC) 1058 54	7
CO 687 21	0
Sulfur Dioxide (SO <sub>2</sub> ) 7223 28	32

Under the federal Clean Air Act (the Act), the EPA is charged with promulgating maximum achievable control technology (MACT) standards for major sources of hazardous air pollutants (HAPs) in various source categories by certain dates. Section 112 (j) of the Act

requires that permitting authorities develop a case-by-case MACT for any major sources of HAPs in source categories for which the EPA failed to promulgate a MACT standard by May 15, 2002. These provisions are commonly referred to as the "MACT hammer."

Owner or operators that could reasonably determine that they are a major source of HAPs which ibnlcudes one or more stationary sources included in the source categlroy or subcategory for which the EPA failed to promulgate a MACT standards by the section 112(j) deadline were required to submit a Part 1 application fro revision t their operating permit application by May 25, 2002. Based on the information providied by this source, Rocky Mountain Metal Container is a major source of HAPs (i.e. facility-wide potential to emit of greater than 10 tons per year of any single HAP or greater than 25 otons per year of all HAPs combined) for a covere source category (Metal Can Surface Coating) and did submit a art 1 application to the Division prior to May 15, 2002. As of the date of issuance of this permit, a Part 2 application to revise this operating permit is due by October 30, 2003. That date, however, may be revised. Affected facilities that fail to submit a timely and complete application will be considered to be in violation and such violations may be subject to enforcement action.

#### II. EMISSION SOURCES

The following sources are specifically regulated under terms and conditions of the Operating Permit for this site:

### P200, 300, 400, and 500 - CAN LINES

The Can Lines produce aluminum cans that are used for packaging beverages. The cans start at the cuppers as flat discs stamped from coiled aluminum sheets. The cuppers take these discs and draw them into cups. The cups are then conveyed to the bodymakers, where each cup is formed into the diameter of a can and put through a series of dies that change the can wall thickness. In addition, while at the bodymaker, the cans are domed or punched so as to form a concave bottom, which helps cans maintain their shape against the pressure that builds up inside after they are filled with beer. The cans then move to the trimmer where each is trimmed to the correct height. A multi-stage washer uses a detergent and acid solution to remove all lubricants and foreign materials. The cans are dried. They are printed and coated, via dry offset printers, with one of many labels. The ultra-violet (UV) curable ink and overcoat is cured in UV ovens, thus finishing the printing operation. The interior of the can is spray coated with a water-reduced coating and oven cured. Then each can is necked, flanged, and tested for leaks. Following the inspection, the finished cans are shipped on pallets or in custom trailers, or they are warehoused. Ovens are fueled with natural gas.

### **F800 - CAN LINE CLEANING**

Can Line Cleaning is the process of cleaning production-related equipment. During the manufacture of cans, equipment is soiled from the use of raw materials such as lubes, oil, coolants, inks, and coatings. Printer blankets need to be cleaned occasionally due to substandard print quality or preceding a label change. The internal coating areas are also

cleaned several times during shifts to prevent the spraying machine and can tracks from accumulating coating or dust. Cleaning is performed by brushing and wiping equipment, and by steam cleaning heavily soiled bodymaker units during preventative maintenance periods.

**Applicable Requirements -** The C24 Can Line is grandfathered from construction Permit requirements. Construction Permit C-10,090 was issued for the C04 Can Line, Construction Permit C-11,536 for the C05 Can Line, and Final Approval Construction Permit 87JE015 for the CX3 Can Line. Applicable requirements are as follows.

### All Can Lines

- C Colorado Regulation No. 1
- C Limits opacity to 20 or 30% (II.A.1 & 4, 20% also Regulation No. 6, Part B, II.C.2 and 3 for CX3, Regulation No. 6, Part B are **State-Only** requirements)
  - C Limits PM emissions based on fuel burning (III.A.1.b)
- C Regulation No. 7, IX.A & C, (Reasonably Available Control Technology for VOC emissions)
  - C Limits VOC content of coatings
  - C Requires minimization of fugitive emissions

## Construction Permit C-10,090

This permit requires the control of hydrocarbon emissions once regulations are adopted. This requirement is met and superseded by Regulation No. 7 requirements. This requirement is provided the permit shield in the Operating Permit.

#### Construction Permit C-11,536

- C Limits opacity to 20%
- C Limits PM emission to 3.38 lbs/hour (Note: This limit is not included in the Operating Permit due to the nature of the process and the fact that natural gas is used as a fuel, it is expected PM emissions will be minimal. This limit is not necessary to protect any National Ambient Air Quality Standards The limit is provided the permit shield in the Operating Permit)

### Construction Permit 87JE015

- C Limits opacity to 20%
- C Limits VOC and NO<sub>x</sub> emissions in tons/year (the VOC limit was established to ensure facility emission increase did not exceed PSD/NSR significant modification level of 40 tons VOC/year) and lbs/week bases

- C Lists annual production, internal coating usage, and natural gas usage, however, these are not limits
- C Limits coating VOC content to 3.64 lbs/gallon less water
- C 40 CFR Part 60, Subpart WW, Standards of Performance for the Beverage Can Surface Coating Industry, as adopted by reference in Colorado Regulation No. 6, Part A
  - C Limits VOC content of coating to 0.89 kilogram/litre of coating solids for internal coating operations
- C Colorado Regulation No. 7, IX.A & C, (Reasonably Available Control Technology for VOC emissions)
  - C Limits VOC content of coating to 4.2 lb/gallon minus water for internal coating
- C Limits cleanup to non-VOC materials (Note: The permittee requested that this condition be clarified to indicate that non-VOC cleaners includes waterbased cleaners that contain minimal amounts of chemicals for solvency. This request is included in the Operating Permits. Note that, VOC emissions, however minimal, must be included towards meeting the VOC emission limits (lb/week, ton/year and lb VOC/coating) for this Can Line.

## Other Requirements for CX3 Can Line

- C 40 CFR Part 60, Subpart WW, Standards of Performance for the Beverage Can Surface Coating Industry, as adopted by reference in Colorado Regulation No. 6, Part A
  - C Limits VOC content of coating to 0.46 kilogram/litre of coating solids for overvarnish operations

**Emission Factors** - VOC emissions originate from washing, printing, and internal coating operations. Printing operations produce emissions from the use of inks and coatings and from curing these materials in the UV ovens, while internal coating operations produce emissions resulting from the use of internal coating and from the curing of the material in thermal ovens. Process fuel burning results in combustion byproduct emissions (NO<sub>x</sub>, SO<sub>2</sub>, VOC, PM, PM<sub>10</sub>, and CO). VOC from coating and cleanup activities are estimated using the VOC content of the coatings/materials and the amounts of coatings/materials used. Emissions from natural gas combustion are estimated using AP-42.

**Monitoring -** To monitor compliance with the VOC content limits for coatings, the permittee will use manufacturer's certification in lieu of Regulation No. 7 coating testing requirements. Records of the amounts of materials and fuel used will be kept. Opacity for the coating lines is monitored by daily visual emission observations and Method 9 observations.

**Compliance Status -** The permittee certified compliance with all applicable requirements.

#### P600 - ALUMINUM SCRAP SYSTEM

The aluminum scrap system is designed to remove and reclaim scrap aluminum which is produced during can production. Scrap aluminum originates from several points on each of the can lines. During the cupping operation, a metal skeleton is left over after the cups are cut out of the sheet aluminum. The trimming process also creates scrap. Additionally, other cans (such as substandard decorated cans) are discarded at various process points.

The scrap system employs large, heavy duty, specially built cyclones on the facility sroof. A pneumatic system picks up scrap from various can line locations and blows the scrap into the cyclones. The scrap then drops through the cyclones to balers at ground level, where it is compressed into briquettes. The briquettes are shipped to aluminum companies for recycling.

**Applicable Requirements** - The aluminum scrap system is grandfathered from Construction Permit requirements. Applicable Requirements are as follows.

Colorado Regulation No. 1, II.A.1 & 4

- C Limits opacity to 20 or 30 percent
- C Limits PM emissions using an equation based on process weight rate

**Emission Factors** - As the scrap from the cupping and bodymaker areas is transported through the cyclones to the baler, some cupper lube and coolant oil escapes at the cyclones in the form of an oil mist. Since the heavy oils involved in the process have relatively low volatility, they are not emitted as volatile organic compounds but as particulate. Emissions are estimated using stack test results, and are based on hours of operation.

**Monitoring -** Records of hours of operation will be maintained. Compliance with the PM emission limit will be monitored by dividing the PM emissions by the hours of operation. Visual emissions observations are performed weekly (can be reduced to monthly if 12 weeks of observations result in no visible emissions) and Method 9 will monitor opacity whenever visible emissions are present.

**Compliance Status -** The permittee certified compliance with all applicable requirements.

### **P700 - COOLING TOWERS**

Cooling towers are used for several different applications at the Can Manufacturing facility. These applications include air compressor cooling and the air conditioning system. All of the cooling towers are of the inducted type and include a recirculating system. The building 21 cooling tower contains two cells (fans), while the building 30 cooling tower contains 4 cells.

**Applicable Requirements -** Final Approval Construction Permit 93JE1580 was issued for these sources. Applicable requirements are as follows.

(Note: The Construction Permit is for Buildings 21 and 30 cooling towers. The Building 21 cooling tower is an insignificant sources, therefore it is removed from the permit requirements.)

Construction Permit 93JE1580

- C Limits PM and PM<sub>10</sub> emissions (tons/year) (adjusted to delete emissions from Building 21)
- C Limits water circulation and drift design rates, conductivity of water
- C Limits opacity to 20 percent (Colorado Regulation No. 1, II.A.1)

Colorado Regulation No. 1, II.A.4

C Limits opacity to 30% during special conditions

**Emission Factors** - Cooling towers are sources of PM emissions. The emission rate depends on the design drift loss of the tower. PM emissions will vary depending on the concentration of total dissolved solids (TDS) in the water and whether the tower utilizes once-through or recirculating water. PM emission rates are calculated using TDS data collected by Coors Laboratory Services.

**Monitoring** - The permittee will monitor the electrical conductivity of the water. A correlation exists between total dissolved solids (TDS) and electrical conductivity. The TDS number will be multiplied by the water circulation rate and the drift rate. Water circulation will be assumed to be at maximum design flow. Drift rate will be assumed at maximum design drift. In absence of credible evidence to the contrary, compliance with the electrical conductivity, drift loss, and water recirculation rate will be presumed to be compliance with the opacity limits.

**Compliance Status -** The permittee certified compliance with all applicable requirements.

#### P1100 - INTERNAL CAN COATING

The C30 Internal Coating operation consists of spraying the interior of the can with a waterreduced coating. The coated cans are then conveyed to an oven to be cured. Then each can is either necked, flanged, tested for leaks, and shipped to the Brewery or warehoused; or the cans are sent directly to their destinations following inspection.

**Applicable Requirements -** This activity is grandfathered from Construction Permit Requirements. Applicable requirements are as follows.

- C Colorado Regulation No. 1
  - C Limits opacity to 20 or 30% (II.A.1 & 4)
  - C Limits PM emissions based on fuel burning (III.A.1.b)

- C Regulation No. 7, IX.A & C, (Reasonably Available Control Technology for VOC emissions)
  - C Limits VOC content of coatings
  - C Requires minimization of fugitive emissions

**Emission Factors** - The C30 Internal Coating operation is a source of VOC emissions, originating from the use of the internal coating and from the curing of the material in thermal ovens. Natural gas burning results in combustion byproducts (NOx, SO2, PM, PM10, VOC and CO). Natural gas combustion emissions are estimated using AP-42. VOC emissions are estimated using the amount of coating used and the VOC content of the coating.

**Monitoring -** To monitor compliance with the VOC content limits for coatings, the permittee will use manufacturer's certification in lieu of Regulation No. 7 coating testing requirements. Records of the amounts of materials and fuel used will be kept. Daily visual emission observations and semiannual Method 9 readings are used to monitor opacity.

**Compliance Status -** The permittee certified compliance with all applicable requirements.

# IV. Alternate Operating Scenarios

The Title V application did not include a request for any Alternate Operating Scenarios.

### V. Short Term Limits

On April 16, 1998 the Colorado Air Quality Control Commission directed the Division to implement new procedures regarding the use of short term emission and production/throughput limits on Construction Permits. These procedures are being directly implemented in all operating permits that had not started their Public Comment period as of April 16, 1998. All short term emission and production/throughput limits that appeared in the construction permits associated with this facility that are not required by a specific State or Federal standard or by the above referenced Division procedures have been deleted and all annual emission and production/throughput limits converted to a rolling 12 month total. Note that, if applicable, appropriate modeling to demonstrate compliance with the National Ambient Air Quality Standards was conducted as part of the Construction Permit processing procedures. If required by this permit, portable monitoring results and/or EPA reference test method results will be multiplied by 8760 hours for comparison with annual emission limits unless there is a specific condition in the permit restricting hours of operation.

For this permit, no short term limits were omitted from the Operating Permit, except for the PM lb/hour limit for the C05 Can Line (see discussion above). No ambient modeling data

exist to indicate that the short term limits for VOC are not necessary to protect the ambient standard.

### VI. Emission Factors

From time to time published emission factors are changed based on new or improved data. A logical concern is what happens if the use of the new emission factor in a calculation results in a source being out of compliance with a permit limit. For this operating permit, the emission factors or emission factor equations included in the permit are considered to be fixed until changed by the permit. Factors dependent of the fuel sulfur content or heat content can not be fixed and will vary with the test results. The formula for determining the emission factors is, however, fixed. It is the responsibility of the permittee to be aware of changes in the factors, and to notify the Division in writing of impacts on the permit requirements when there is a change in factors. Upon notification, the Division will work with the permittee to address the situation.

# VII. Compliance Assurance Monitoring (CAM)

The requirements set forth in 40 CFR Part 64, as adopted by reference into Colorado Regulation No. 3, Part C, Section XIV, require emission points that use a control device to meet an emission limit or standard, and which have pre-controlled emissions equal to or greater than major source thresholds to submit a CAM plan. Sources for which a Title V application was deemed administratively complete prior to April 20, 1998 are not subject to the CAM requirements until renewal or if a significant permit modification is made that affects a large unit. The application for this facility was deemed complete prior to April 20, 1998, therefore the CAM provisions do not apply at this time.